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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,741	05/31/2001	Sean Crispian Keeping	P07243US00/RFH	5720

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EXAMINER

SINES, BRIAN J

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No. 09/867,741	Applicant(s) KEEPING ET AL.	
	Examin r Brian J. Sines	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-21 is/are allowed.
- 6) ☒ Claim(s) 1,3-15,23 and 25-36 is/are rejected.
- 7) ☒ Claim(s) 2,10,16,17,22 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 6 – 10 and 27 – 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "said first portion" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said second portion" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 8 and 9 recite the limitation "said main unit part" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "said main unit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "analysis unit" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 27, 28 and 29, the format of making reference to limitations recited in another claim is confusing. For example, regarding claims 27 and 29, the cartridge part itself does not comprise an analysis or processing means, as recited in claim 1. As recited in claim 1, the main body part comprises the analysis or processing means. Regarding claim 28, what limitations are considered the "main body means

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features”? Does the applicant intend to define the main body comprising only the features comprising the analysis or processing means, without the adaptation for positioning in a fluid to be analyzed? The metes and bounds of these claims are unclear. Therefore, these claims are indefinite under 35 U.S.C. 112, second paragraph (see MPEP § 2173.05(f)).

Claim 30 recites the limitation "liquid" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "interface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. See *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "heating means" in claim 10 is used by the claim to mean "adapted to cool," while the accepted meaning is "to heat." The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

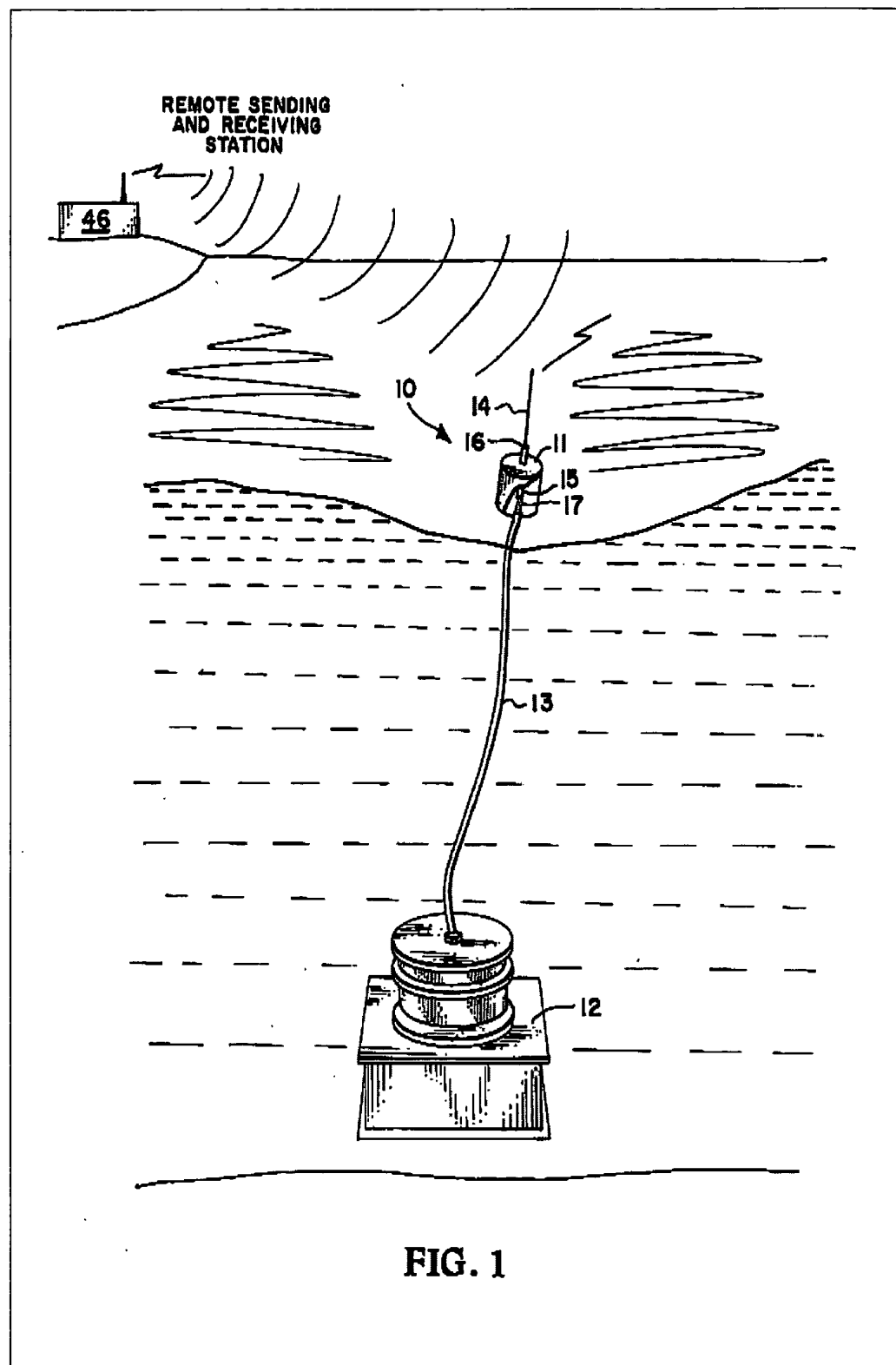
1. Claims 1, 9, 11, 12, 14, 15, 23, 25, 27, 28 and 30 – 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Grana *et al.* (U.S. Pat. No. 4,089,209). Regarding claims 1, 23, 25, 27, 28 and 33 – 36, Grana *et al.* teach an analysis apparatus comprising a main body part (sample unit 12 comprising base 18) and a cartridge part (midsection 19 & top 20), wherein the main body part, which is adapted for being positioned in a fluid to be analyzed, includes an analysis or processing means (control module 22). Grana *et al.* teach that the cartridge part includes a means (sample chamber 23, supply tube 27 & passageway 34) for extracting a sample from the fluid; a means (sample chamber 23) for storing at least one reagent, such as lauryl trypsin broth; and a means (lead wires leading from the sensor 41 to the control module 22) for transferring data resulting from analysis of the sample within the cartridge to the processing means (see col. 3, lines 1 – 16; col. 4, lines 1 – 68; col. 5, lines 1 – 68; figures 2 – 4). Regarding claim 9, Grana *et al.* teach the incorporation of a heating system, such as an electrically actuated circumferentially disposed strap-type heater (55), which is in contact with each sample chamber (23) (see col. 7, lines 5 – 31). Regarding claim 11, Grana *et al.* teach that the control module (22), which comprises a conventional data processor, is able to store analysis data (see col. 3, lines 17 – 24; col. 4, lines 23 – 27). Regarding claim 12, Grana *et al.* teach that the cartridge part comprises an analysis means (sensor 41) (see col. 5, lines 33 – 53). Regarding claim 14, Grana *et al.* teach the incorporation of a means (supply tube 27) for directing a sample to the analysis means (sensor 41) (see col. 5, lines 33 – 68). Regarding claim 15, it is inherently anticipated that the incorporation and use of the

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heating means with the apparatus would reduce the content of dissolved air or gas in the liquid sample. Regarding claim 23, Grana *et al.* teach that the samples may be stored within their respective sample chamber for further testing (see col. 3, lines 25 – 30).

Regarding claim 23, Grana *et al.* further teach the incorporation of a transmitter, which may utilize telemetry to transmit data to a remote location (see col. 4, lines 1 – 27; figures 1 & 5). Regarding claim 30, as shown in figure 2, the interface between the main body part (sample unit 12 comprising base 18) and the cartridge part (midsection 19 & top 20) are sealed together, thereby not permitting the passage of fluid between the two parts.

Regarding claim 31, Grana *et al.* teach that the base (18) contains batteries (21), which power the apparatus (see col. 4, lines 1 – 27). Regarding claim 32, Grana *et al.* teach that the interface comprises means (transmission lines 17) for transferring data to or from the cartridge part (see col. 4, lines 1 – 27).



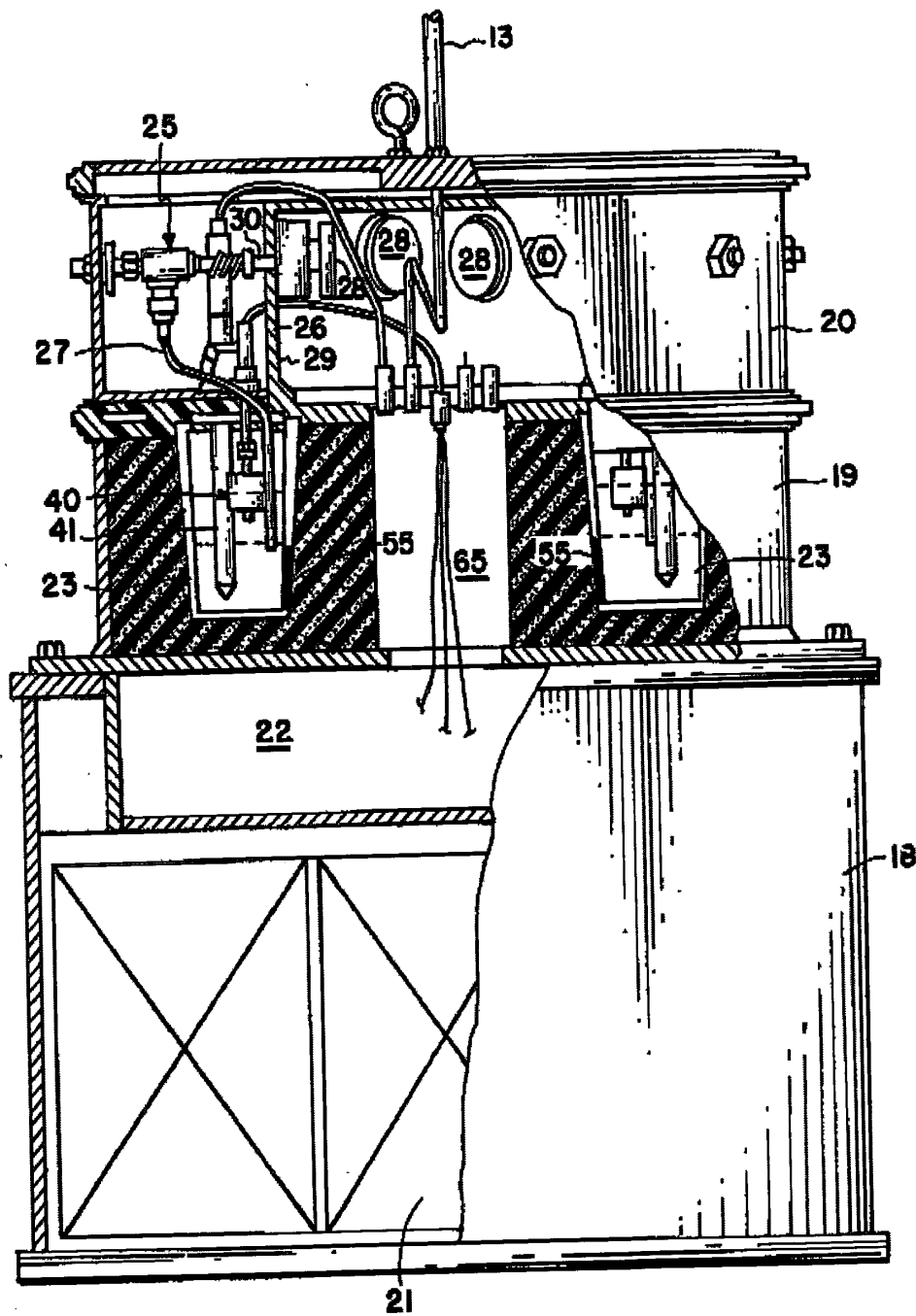
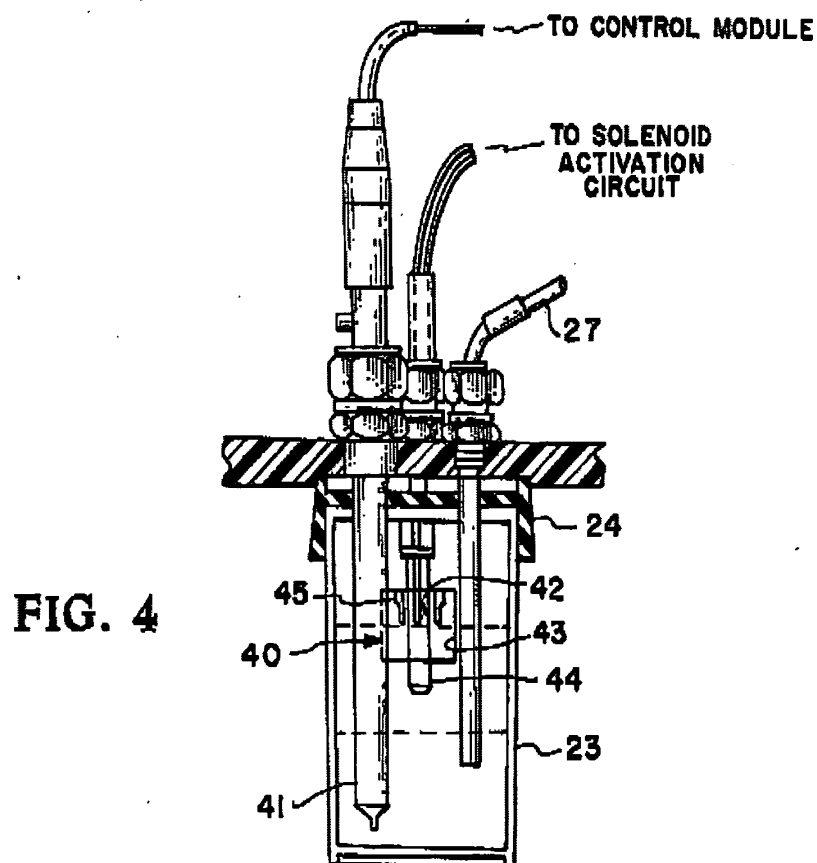
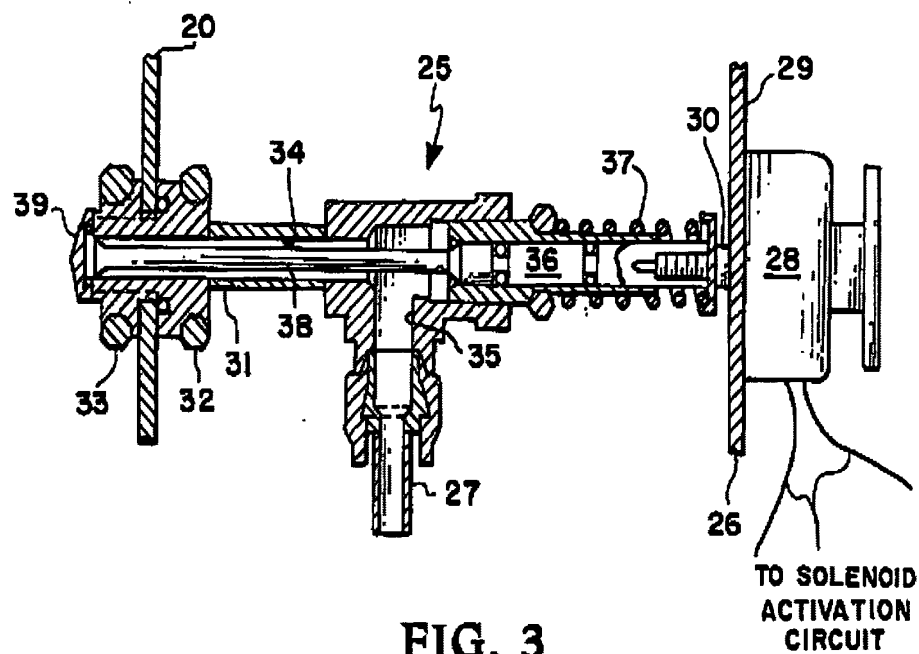


FIG. 2



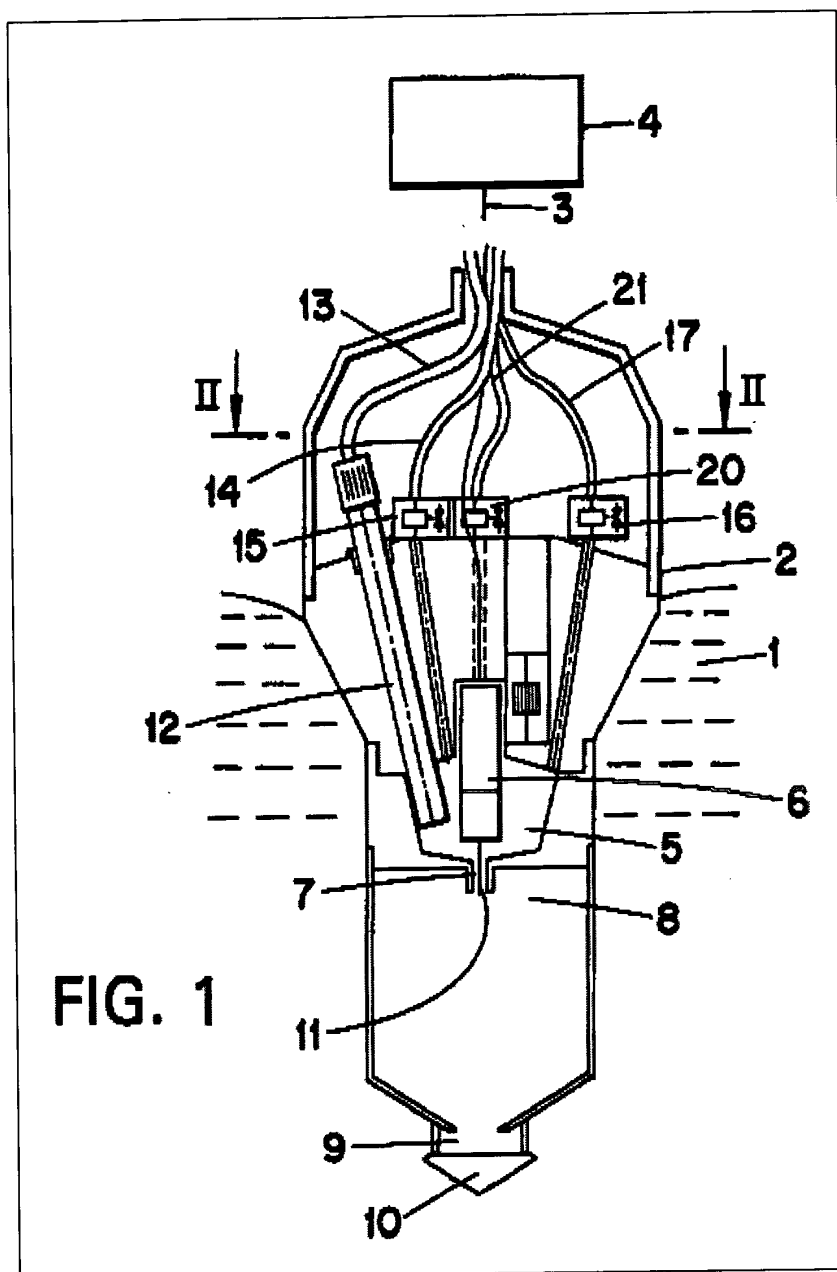
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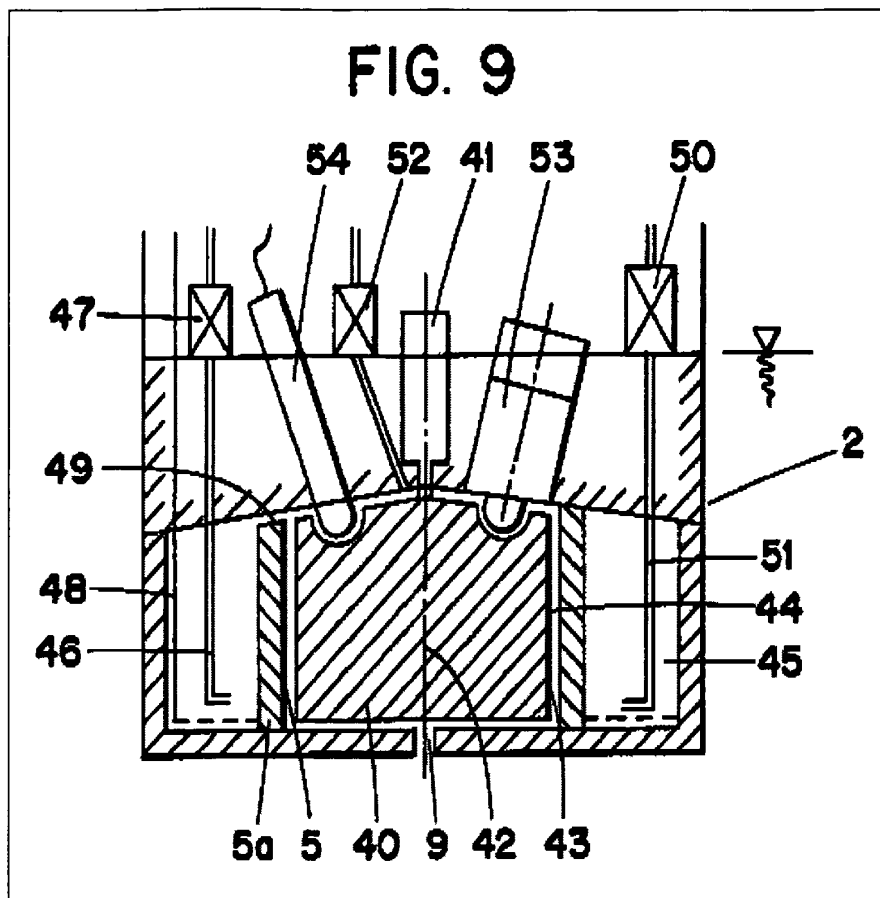
2. Claims 1, 9, 11 – 15, 25 – 28 and 30 – 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Siepmann (U.S. Pat. No. 6,197,256 B1). Regarding claims 1, 25, 27, 28 and 33 – 36, Siepmann teaches an analysis apparatus comprising a main body part (analysis device 4) and a cartridge part (measuring buoy 2), wherein the main body part, which is adapted for being positioned in a fluid (wastewater 1) to be analyzed, includes an analysis or processing means (see col. 2, lines 5 – 16). Siepmann teaches that the cartridge part includes a means (chamber opening 7) for extracting a sample from the fluid; a means (a reagent source) for storing at least one reagent; and a means (3) for transferring data resulting from analysis of the sample within the cartridge to the processing means (see col. 3, lines 40 – 67; col. 4, lines 1 – 7; figure 1). Regarding claim 9, Siepmann teaches the incorporation of a heating means (heater 48), which projects into aeration chamber 45. The aeration chamber (45) opens into the sample chamber (5) through an overflow opening (49) (see col. 5, lines 39 – 67). Regarding claim 11, Siepmann teaches that the control and analysis device (4) receives data indicative of analysis results. The control and analysis device (4) is inherently anticipated to comprise a computer or microprocessor for performing and storing the results of the TOC content analysis of the waste water being analyzed (see col. 2, lines 5 – 16; col. 4, lines 41 – 48; col. 5, lines 11 – 21). Regarding claim 12, Siepmann teaches that the control and analysis device (4) may be arranged to be with the cartridge part (measuring buoy 2) (see col. 2, lines 5 – 16). Regarding claims 13 and 26, Siepmann teaches the incorporation of an oxygen probe (see col. 5, lines 59 – 67). Regarding claim 14, Siepmann teaches the incorporation of a means (dosing pump 53) for directing a sample to the analysis means (oxygen probe 54) (see col. 5, lines 59 – 67; figure 9). Regarding claim 15, it is

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inherently anticipated that the incorporation and use of the heating means with the apparatus would reduce the content of dissolved air or gas in the liquid sample.

Regarding claim 36, Siepmann teaches that the control and analysis device can be positioned in a remote location (see col. 2, lines 5 – 16). Regarding claim 30, as shown in figure 2, the interface between the main body part (analysis device 4) and the cartridge part (measuring buoy 4) are connected together by an interface (3), such as cables or lines, which does not permit the passage of fluid between the two parts (see col. 2, lines 5 – 16). Regarding claim 31, Siepmann teaches that electrical power can be transferred between the main body part (analysis device 4) and the cartridge part (measuring buoy 4) using the interface (3) (see col. 2, lines 5 – 16). Regarding claim 32, Siepmann teaches that the interface (3) can transfer data between the main body part (analysis device 4) and the cartridge part (measuring buoy 4) (see col. 2, lines 5 – 16).

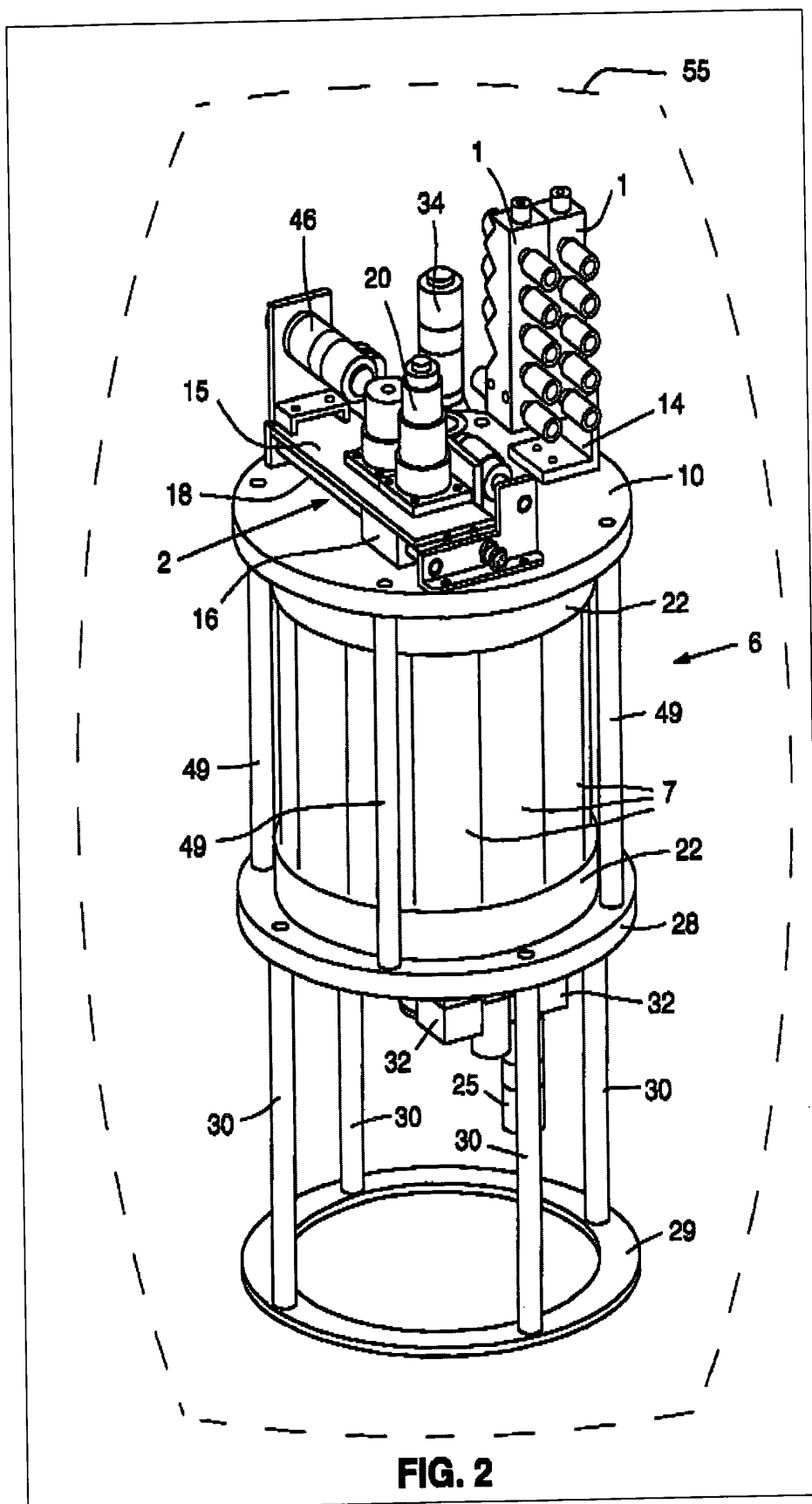




3. Claims 1, 5, 9, 11, 12, 14, 15, 25, 27, 28 and 33 – 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Scholin *et al.* (U.S. Pat. No. 6,187,530 B1). Regarding claims 1, 5, 25, 27, 28 and 33 – 36, Scholin *et al.* teach an analysis apparatus comprising a main body part (aquatic autosampler) and a cartridge part (filter housing assembly 5 & 6), wherein the main body part, which is adapted for being positioned in a fluid to be analyzed, includes an analysis or processing means (*e.g.*, imaging system 20) (see col. 5, lines 25 – 50; col. 7, lines 9 – 46; figures 2 – 14). Scholin *et al.* teach that the cartridge part includes a means (syringe 3 & valve manifold 1) for extracting a sample from the fluid; a means (reagent bags 50) for storing at least one reagent; a means (*e.g.*, filter disk 31) for transferring the sample and the at least one

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reagent to the analysis means so as to permit analysis of the sample; and a means (*e.g.*, a CCD camera) for transferring data resulting from analysis of the sample within the cartridge to the processing means (see col. 5, lines 25 – 67; col. 6, lines 1 – 64; col. 7, lines 9 – 28). Regarding claim 9, Scholin *et al.* teach the incorporation of a heating means (heater/seal clamp sub-assembly 4) with the filter housing assembly (5 & 6), which comprises the cartridge part of the apparatus (see col. 8, lines 45 – 55; col. 9, lines 4 – 33). Regarding claim 11, Scholin *et al.* teach the incorporation of a computer-based system controller (see col. 5, lines 25 – 50). Regarding claim 12, Scholin *et al.* teach that the cartridge part further comprises an analysis means (*e.g.*, various detection reagents, such as molecular probes, antibody probes, *etc.*) (see col. 2, lines 45 – 62). Regarding claim 14, Scholin *et al.* teach that the main body part further comprises means (*e.g.*, filter housing 5 & filter carousel 6) for directing a sample to the analysis means of the cartridge part (see col. 5, lines 25 – 50; col. 7, lines 10 – 46). Regarding claim 15, it is inherently anticipated that the incorporation and use of the heating means with the apparatus would reduce the content of dissolved air or gas in the liquid sample. Regarding claim 36, Scholin *et al.* teach the use of a wireless link, which may be utilized for transmitting the results to a remote location (see col. 8, lines 19 – 29).



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scholin *et al.* in view of Davis (U.S. Pat. No. 4,769,974). Scholin *et al.* do teach the use of reagent bags (50) with their disclosed analysis apparatus (see col. 5, lines 25 – 61). However, Scholin *et al.* do not specifically teach an appropriate bag filling method for filling the bags with reagent. Davis teaches a general bag filling method comprising the steps of: pumping the air from the bag so as to create a vacuum within the bag; and pumping the desired fluid into the bag (see col. 3, lines 16 – 68 & col. 4, lines 1 – 62). Therefore, the prior art, as is evidenced by Davis, recognizes the suitability of such a method for the intended purpose of filling bags with fluids (see MPEP § 2144.07). It would have been obvious to one of ordinary skill in the art to incorporate the use of the bag filling method, as taught by Davis, in preparing the reagent bags for use with the analysis apparatus, as

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taught by Scholin *et al.* in order to effectively provide for a replenishment of reagent bags for the apparatus. Therefore, it would have been obvious to one of ordinary skill in the art to utilize a method comprising the steps of: pumping the air from the reagent bag so as to create a vacuum therein; and pumping the desired reagent into the reagent bag.

Allowable Subject Matter

Claims 18 – 21 are allowed.

Claims 2, 10, 16, 17, 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3, 4 and 6 – 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Grana *et al.*, Scholin *et al.*, Siepmann teach various analysis apparatus for analyzing fluids. The cited prior art neither teach or fairly suggest the further incorporation of a means for transferring the sample and reagents to the analysis means comprises an associated needle portion and wherein the main body part comprises a corresponding needle receiving portion and an associated communication pathway to the analysis means. The cited prior art neither teach or fairly suggest the further incorporation of a chamber for the storage of water and wherein said flexible reagent bags are positioned within the chamber. The cited prior art neither teach or fairly suggest the further incorporation of a means to cool the reagents. The cited prior art neither teach or fairly suggest the further incorporation of a means for reducing the content of

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dissolved air in the sample, which comprises an upwardly vertically extending input pipe in which the upper end of the pipe is vented to the atmosphere and a downwardly angled output pipe in fluid communication with the input pipe. The cited prior art neither teach or fairly suggest the further incorporation of a rotational motor and associated coupling means and wherein the cartridge part comprises a pump adapted to be driven by the rotational motor via the coupling means, and wherein the pump is adapted to extract a sample from the fluid.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Farnworth teaches an analysis apparatus for processing and analyzing waste water.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (703) 305-0401. The examiner can normally be reached on Monday - Friday (11:30 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Jill Warden
Supervisory Patent Examiner
Technology Center 1700